Exhibit D
(FILED UNDER SEAL)
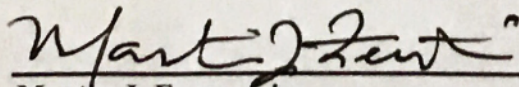
UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

-- X:
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SIMO HOLDINGS INC.,   :

                          :

Plaintiff,   :   No. 1:18-cv-05427 (JSR)

                          :

-against-   :

                          :

HONG KONG UCLOUDLINK NETWORK :
TECHNOLOGY LIMITED and   :
UCLOUDLINK (AMERICA), LTD.,   :

                          :

Defendants.   X

**EXPERT REPORT OF MARTIN J. FEUERSTEIN
IN REBUTTAL TO INITIAL EXPERT REPORT OF PAUL CLARK AND
EXPERT REPORT OF ERIC WELCH
REGARDING U.S. PATENT NO. 9,736,689**

Executed on February 1, 2019

Martin J. Feuerstein

uCloudlink was even aware of the '689 patent let alone that uCloudlink intended to induce infringing acts or that it knew the Accused Devices were especially made or especially adapted for use in the alleged infringement of the '689 patent. Accordingly, Dr. Clark has failed to show that uCloudlink indirectly infringed any Asserted Claim.

B. Dr. Clark Failed to Prove Infringement by G2

1. Dr. Clark Failed to Prove Infringement of Claim 8 by G2

a. Element 8[Pre]

"*A wireless communication client or extension unit comprising a plurality of memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory and non-local calls database, at least one of the plurality of programs stored in the memory comprises instructions executable by at least one of the plurality of processors for*"

145.   Dr. Clark failed to prove that the G2 device meets all limitations of the preamble of claim 8.

(1) The Preamble of Claim 8 Is Limiting

146.   Dr. Clark erroneously argued that "neither party requested that the preamble be construed as limiting." Ex. 03 (Clark Report) at ¶ 108 ("neither party requested that the preamble be construed as limiting"). Dr. Clark failed to provide any evidence or solid reasoning that the preamble of claim 8 is not limiting. His cursory conclusion only relied on the alleged fact that "[n]either Plaintiff nor Defendant included the preamble of claim 8 as a disputed claim term" for claim construction as the basis for his conclusion. *Id.* at ¶ 108. By doing so Dr. Clark assumes that the preamble of claim 8 is by default not limiting.

147.   Dr. Clark's assumption is completely groundless and erroneous. Based on legal advice from Morgan Lewis attorneys on case law, I understand that a claim preamble cannot be seen as by default not limiting as Dr. Clark misunderstood, but whether limiting has to be determined on a case-by-case basis in light of the facts in each case. *See Catalina Mktg. Int'l v.*

Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed. Cir. 2002). Therefore, the preamble of claim 8 should not be seen as not limiting, simply because "[n]either Plaintiff nor Defendant included the preamble of claim 8 as a disputed claim term," as incorrectly assumed by Dr. Clark. Ex. 03 (Clark Report) at ¶¶ 108.

148.   Based on legal advice from Morgan Lewis attorneys on case law set forth below, I believe the preamble of claim 8 is limiting. "If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999) (quoting *Kropa v. Robie*, 187 F.2d 150, 152 (CCPA 1951)); *see also Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333 (Fed. Cir. 2003).

149.   First, based on legal advice from Morgan Lewis attorneys on case law, I believe the preamble of claim 8 is limiting because the claim preamble recites the "wireless communication client or extension unit" limitation providing an antecedent basis for the limitation "the wireless communication client or the extension unit" in the claim body. *See Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) ("When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention."). The "wireless communication client or extension unit" limitation in the preamble is recited at least five times in the claim body of claim 8. Ex. 01 ('689 patent) at 25:12, 25:15, 25:23, 25:34, 25:39. The "wireless communication client or extension unit" limitation in the preamble of claim 8 is also recited in dependent claims 12 and 14 (Ex. 01 ('689 patent) at 25:65-66, 26:13-14). The preamble term "wireless communication client or extension unit" of independent claim 8 provides an antecedent

basis for and is necessary to understand positive limitations in the body of claim 8 and dependent claims 12 and 14, and is therefore limiting. *See Pacing Technologies, LLC v. Garmin Intern.*, *Inc.*, 778 F. 3d 1021, 1024 (Fed. Cir. 2015) ("Because the preamble terms 'user' and 'repetitive motion pacing system' [of independent claim 25] provide antecedent basis for and are necessary to understand positive limitations in the body of claims [25 and 28] in the '843 patent, we hold that the preamble to claim 25 is limiting.").

150.   Second, based on legal advice from Morgan Lewis attorneys on case law, I believe the preamble of claim 8 is limiting because the claim preamble recites an essential structure limiting the claimed apparatus "wireless communication client or extension unit" of claim 8. *See*, *e.g.*, *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim."); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention). In my opinion, the preamble of claim 8 recites a number of structural limitations (i.e., "a plurality of memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory[,] and non-local calls database") (Ex. 01 ('689 patent) at 25:5-8), which are required to be included in the purported invention "wireless communication client or extension unit" of claim 8. In my opinion, the above recited structural limitations are necessary to perform the steps recited in body of the claim 8. For example, without the preamble limitation "programs," there would be no instructions for the steps recited in the claim body. Without the preamble limitation "memory," nowhere can the instructions for

the steps recited in the claim body be stored. Without the preamble limitation "processors," the steps recited in the claim body would not be performed. Indeed, as the claim preamble recites, "at least one of the plurality of *programs* stored in the *memory* comprises instructions executable by at least one of the plurality of *processors*" (Ex. 01 ('689 patent) at 25:8-10) is required for performing the claimed steps in the body of claim 8.

151.   In addition, in my opinion, without the preamble limitation "communication circuitry," the claimed apparatus "wireless communication client or extension unit" would not be able to establish communications with "a remote administration system" and "a local cellular communication network" recited in the claim body of claim 8, to perform "enabling an initial setting of the wireless communication client or the extension unit and a remote administration system; establishing a data communication link . . . ; establishing a local authentication information request in response to a local authentication request by a local cellular communication network . . . ; relaying the local authentication information request to the remote administration system via the data communication link . . . ; establishing local wireless services provided by the local cellular communication network" as required by claim 8. Ex. 01 ('689 patent) at 25:11-37; *see also* Clark Report at ¶ 134 (Dr. Clark admitted that "the 'enabling an initial setting' limitation comprises steps that facilitate the establishment of a data communication link between the foreign wireless client or extension unit.").

152.   Furthermore, in my opinion, without the preamble limitation "non-local calls database," the claimed apparatus "wireless communication client or extension unit" would not be able to "establish[] local wireless services" (as required by claim 8) including preferred embodiment of making non-local calls. Based on legal advice from Morgan Lewis attorneys on case law, I believe the preferred embodiment of making non-local calls cannot be excluded from

"establishing local wireless services" of claim 8, and the "non-local calls database" is required

for the preferred embodiment of making non-local calls. *See* Ex. 01 ('689 patent) at 25:32-34;

On-Line Techs., Inc. v. Bodenseewerk Perkin-Elmer GmbH, 386 F.3d 1133, 1138 (Fed. Cir. 2004)

("a claim interpretation that excludes a preferred embodiment from the scope of the claim is

rarely, if ever, correct."). Based on my review of the '689 patent, non-local calls service is the

preferred embodiment of "establishing local wireless services" of claim 8. For example, the

purpose of the purported invention of the '689 patent is to "provide[] significant cost savings to

the user, who is no longer subject to the excessive roaming charges demanded by the user's

cellular phone provider" *when making non-local calls*. Ex. 01 ('689 patent) at 5:12-17 (emphases

added); *see also id.* at ("The methods and systems described below allow a foreign wireless

communication device to operate in a local wireless communication network as if it were a local

wireless communication client. For example, a cellular telephone associated with a wireless

contract with AT&T® in San Francisco (the foreign wireless communication client) *makes a*

telephone call from a VODAPHONE® cellular telephone network in London (the local wireless

communication network).") (emphasis added). The '689 patent describes having the "non-local

calls database" of claim 8 as necessary part of the purported invention to facilitate the purpose.

See Ex. 01 ('689 patent) at 15:57-16:6 ("*The non-local calls database 525 lists various locations,*

corresponding area codes, and corresponding local dial-in telephone numbers for use when the

subscriber wants to make a non-local call when present at a particular location. For example,

when a user desires to make a non-local call when within a particular location (e.g., a visiting

caller in London wants to call his home office in San Francisco), the client 106 or extension unit

108 is able to determine that *the called number is not within the local area*, and then dial a local

communication server 128 (FIG. 1) at a local number from the list. The communication server

128 (FIG. 1), using the routing database 130, then reroutes the call to the destination using the most suitable route. For example, the communications server 128 (FIG. 1) may route the call over Voice Over IP (VoIP) to another communication server near the destination in San Francisco, *thereby greatly reducing the cost of the call*.") (emphases added).

153.   Therefore, based on legal advice from Morgan Lewis attorneys on case law, I believe the claim preamble recites structural limitations of the claimed apparatus "wireless communication client or extension unit" of claim 8 and clearly defines and limits the purported invention, and cannot be ignored. *See Corning Glass*, 868 F.2d at 1257; *In re Stencel*, 828 F.2d 751 (Fed. Cir. 1987) (The claim at issue was directed to a driver for setting a joint of a threaded collar; however, the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver.).

154.   Third, based on legal advice from Morgan Lewis attorneys on case law, I believe the preamble of claim 8 is limiting because "the claim preamble is 'necessary to give . . . vitality' to the claim." *See Pitney Bowes*, 182 F.3d at 1305. The patentee referred to the preamble limitation "wireless communication client or extension unit" to argue the patentability of the claim 8 during prosecution. As shown in its arguments (reproduced below) made during prosecution, to overcome the rejection of then pending claim 2 (i.e., claim 8 of the '689 patent) under 35 U.S.C. 103(a) over prior art including WO 2006/094564 to Walton ("*Walton*"), the patentee attempted to differentiate the purported invention from *Walton*, by stressing the preamble limitation "wireless communication client or extension unit" and arguing *Walton* failed

to use such "wireless communication client or extension unit" to send authentication information to the roaming network. Ex. 07 ('689 Prosecution History - Amendment and Response dated September 19, 2016) at 10 (reproduced below). Thus, based on legal advice from Morgan Lewis attorneys on case law, I believe the patentee's "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." *Catalina Mktg*., 289 F.3d at 808-09.

> The Office Action states that Walton differs from the invention in that "the SIM data in Walton is forwarded to the roaming network via the Internet and not via the mobile device itself." In contrast, in the amended claims, authentication information is sent by the foreign wireless communication client or the extension unit to the local carrier over signal link. Note that claim 2 recites "A wireless communication client or extension unit" in its preamble.

Ex. 07 ('689 Prosecution History - Amendment and Response dated September 19, 2016) at 10.

155.   Therefore, in my opinion, the preamble of claim 8 is limiting, because: (i) the preamble limitation "wireless communication client or extension unit" provides an antecedent basis for the body of claims 8, 12, and 14; (ii) the preamble recites necessary structural limitations of the purported invention of claim 8; and (iii) the patentee's clear reliance on the preamble limitation "wireless communication client or extension unit" during prosecution to distinguish the purported invention claim 8 from the prior art transforms the preamble into a claim limitation.

156.   Accordingly, the Plaintiff (through Dr. Clark) bears the burden, which Dr. Clark failed as discussed below, to prove that the Accused Products meet each and every limitation of the preamble in order to prove infringement of claim 8.

device contains a "non-local calls database" as required by claim 8.

163.   Secondly, Dr. Clark misread the preamble limitation "non-local calls database" of claim 8 as "authentication data stored on . . . non-local calls database." *See id*. This interpretation is nonsensical and is inconsistent with the '689 patent specification, e.g., FIG. 5B (reproduced below). Nowhere does the '689 patent specification describes storing authentication data on non-local calls database. *See* Ex. 01 ('689 patent) at 14:21-24 ("The wireless communication client 106 (or wireless extension unit 108) *stores at least a portion of authentication data 530 either on a SIM card and/or in memory 512* as authentication information 532.").

Non-Local Calls Database 525		
Location 1	Area Code 1	Access Number 1
Location n	Area Code n	Access Number n

Figure 5B

Ex. 01 ('689 patent) at Figure 5B.

164.   In my opinion, from both linguistic and technical perspectives, the preamble of claim 8 shall read as "**[a] wireless communication client or extension unit comprising a plurality of** memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory**[,] and non-local calls database** . . ." whereas the "non-local calls database" is one of the recited structural components of the wireless communication client or extension unit, rather than a place to store the recited "authentication data." My reading of the preamble is consistent with the '689 patent specification disclosing the non-local calls database storing "various locations, corresponding area codes, and corresponding local dial-in telephone numbers," and nowhere does the specification disclose

storing authentication data in the non-local calls database. Dr. Clark's reading of the claim 8

preamble is not technically sound. Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls

database 525 lists various locations, corresponding area codes, and corresponding local dial-in

telephone numbers for use when the subscriber wants to make a non-local call when present at a

particular location.").

165.   Dr. Clark failed to provide evidence that the G2 device contains the "non-local

calls database" as required by claim 8. Since the GlocalMe devices (including the G2 devices) do

not provide cellular voice services and therefore do not need the "non-local calls database" as

required by claim 8. As evidenced on the websites (e.g.,

https://www.glocalme.com/data_package?lang=en-US&giso=IN;

https://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Daps&field-

keywords=GlocalMe) selling GlocalMe devices, the GlocalMe devices (including the G2 devices)

provide *only* data services and has *no* other communication services like SMS and cellular voice

services. ██

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166.   In my opinion, there is ample evidence that the G2 device does not include a non-

local calls database, as described in Figure 5B (reproduced below) and the specification of the

'689 patent. See Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls database 525 lists various

locations, corresponding area codes, and *corresponding local dial-in telephone numbers* for use

when the subscriber wants to *make a non-local call* when present at a particular location.")

(emphases added).

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Ex. 27 (UCL-SC0006030-6241, ████████████████ at lines 8427-8524.

203.   Dr. Clark relied on Welch Report at § "G2 — ███████████████████

███████████████████" to support his allegation that the G2 device meets the above-recited

limitation of claim 8. Ex. 03 (Clark Report) at ¶ 197. But Mr. Welch did not support, in fact

negated, Dr. Clark's allegation. The above cited section of Welch Report discussed the G2

device ██

██. See, e.g.,

Ex. 04 (Welch Report) at ¶ 126 ███

████████████████████████████ (emphasis added); *id.* at ¶ 140

███ (emphasis added);

id. at ¶ 144 ████████████████████████████████

███████████████████████ (emphasis added). Welch Report did *not* support that the

G2 device ███

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  204. In addition, Dr. Clark asserted that "Defendants' witness described ██████████

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  205. Therefore, Dr. Clark and Mr. Welch failed to prove that the G2 device "relay[s]

the local authentication information request to the remote administration system via the data

communication link" of claim 10, because ███

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(Clark Report) at ¶ 257 (emphases added); *see also id*. at ¶ 248. Firstly, Dr. Clark's reading of

the claim 8 preamble is nonsensical and he provided nothing in support of his allegation that the

G3 device contains a "non-local calls database" as required by claim 8.

264.   Secondly, Dr. Clark misread the preamble limitation "non-local calls database" of

claim 8 as "authentication data stored on . . . non-local calls database." *See id*. This is incorrect

and is inconsistent with the '689 patent specification. Nowhere does the '689 patent specification

describes storing authentication data on non-local calls database. *See* Ex. 01 ('689 patent) at

14:21-24 ("The wireless communication client 106 (or wireless extension unit 108) *stores at*

least a portion of authentication data 530 either on a SIM card and/or in memory 512 as

authentication information 532.").

265.   In my opinion, from the linguistic and technical perspective, the preamble of

claim 8 shall read as "**[a] wireless communication client or extension unit comprising a**

plurality of memory, processors, programs, communication circuitry, authentication data stored

on a subscribed identify module (SIM) card and/or in memory**[,] and non-local calls database** .

. ." whereas the "non-local calls database" is one of the recited structural components of the

wireless communication client or extension unit, rather than a place to store the recited

"authentication data." My reading of the preamble is consistent with the '689 patent specification

disclosing the non-local calls database storing "various locations, corresponding area codes, and

corresponding local dial-in telephone numbers," and nowhere does the specification disclose

storing authentication data in the non-local calls database. Dr. Clark's reading of the claim 8

preamble is not technically sound. Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls

database 525 lists various locations, corresponding area codes, and corresponding local dial-in

telephone numbers for use when the subscriber wants to make a non-local call when present at a

particular location.").

266.   Dr. Clark failed to provide evidence that the G3 device contains the "non-local

calls database" as required by claim 8. The GlocalMe devices (including the G3 devices) do not

provide cellular voice services and therefore do not need the "non-local calls database" as

required by claim 8. As evidenced on the websites (e.g.,

https://www.glocalme.com/data_package?lang=en-US&giso=IN;

https://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Daps&field-

keywords=GlocalMe) selling GlocalMe devices, the GlocalMe devices (including the G3

devices) provide *only* data services and has *no* other communication services like SMS and

cellular voice services. ███████████████████████████████████

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267.   In my opinion, there is ample evidence that the G3 device does not include a non-

local calls database, as described in Figure 5B (reproduced below) and the specification of the

'689 patent. *See* Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls database 525 lists various

locations, corresponding area codes, and *corresponding local dial-in telephone numbers* for use

when the subscriber wants to *make a non-local call* when present at a particular location.")

(emphases added).

Non-Local Calls Database 525		
Location 1	Area Code 1	Access Number 1
Location n	Area Code n	Access Number n

Figure 5B

the G3 device receives the local authentication request (e.g., "Authentication Req"), the G3

device *establishes* a local authentication information request.") (emphasis added).

302.   As shown below, the G3 device ███████████████████████

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Ex. 28 (UCL-SC0000947-1153, ████████████████ c) at lines 8474-8571

303.   Dr. Clark relied on Welch Report at § "G3 — ████████████████

████████████████████ to support his allegation that the G3 device meets the above-recited

limitation of claim 8. Ex. 03 (Clark Report) at ¶ 336. But Mr. Welch did not support, in fact

negated, Dr. Clark's allegation. The above cited section of Welch Report discussed the G3

device ███

██ See, e.g.,

Ex. 04 (Welch Report) at ¶ 83 ████████████████████████████████████

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████████████████████████ (emphasis added). Welch Report did *not* support that the

G3 device ███

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304.   In addition, Dr. Clark asserted that "Defendants' witness █████████████

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305.   Therefore, Dr. Clark and Mr. Welch failed to prove that the G3 device "relay[s]

the local authentication information request to the remote administration system via the data

communication link" of claim 10, because ██████████████████████████████

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the claim 8 preamble is nonsensical and he provided nothing in support of his allegation that the U2 device contains a "non-local calls database" as required by claim 8.

362.   Secondly, Dr. Clark misread the preamble limitation "non-local calls database" of claim 8 as "authentication data stored on . . . non-local calls database." *See id*. This is incorrect and is inconsistent with the '689 patent specification. Nowhere does the '689 patent specification describes storing authentication data on non-local calls database. *See* Ex. 01 ('689 patent) at 14:21-24 ("The wireless communication client 106 (or wireless extension unit 108) *stores at least a portion of authentication data 530 either on a SIM card and/or in memory 512* as authentication information 532.").

363.   In my opinion, from the linguistic and technical perspective, the preamble of claim 8 shall be read as "**[a] wireless communication client or extension unit comprising a plurality of** memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory**[,] and non-local calls database** . . ." whereas the "non-local calls database" is one of the recited structural components of the wireless communication client or extension unit, rather than a place to store the recited "authentication data." My reading of the preamble is consistent with the '689 patent specification disclosing the non-local calls database storing "various locations, corresponding area codes, and corresponding local dial-in telephone numbers," and nowhere does the specification disclose storing authentication data in the non-local calls database. Dr. Clark's reading of the claim preamble is not technically sound. Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls database 525 lists various locations, corresponding area codes, and corresponding local dial-in telephone numbers for use when the subscriber wants to make a non-local call when present at a particular location.").

Element 14[a] limitation of claim 14. More importantly, as shown in the relevant source code I discussed above, the U2 device actually works in a way that is completely contrary to what claim 14 requires.

E.   Dr. Clark Failed to Prove Infringement by S1

1.   Dr. Clark Failed to Prove Infringement of Claim 8 by S1

a.   Element 8[Pre]

"A wireless communication client or extension unit comprising a plurality of memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory and non-local calls database, at least one of the plurality of programs stored in the memory comprises instructions executable by at least one of the plurality of processors for"

454.   Dr. Clark failed to provide S1 meets all limitations of the preamble of claim 8.

(1)   The Preamble of Claim 8 Is Limiting

455.   Dr. Clark erroneously argued that "[t]he preamble of claim 8 is not a limitation." Ex. 03 (Clark Report) at ¶ 519. Dr. Clark failed to provide any evidence or solid reasoning that the preamble of claim 8 is not limiting. His cursory conclusion "neither party requested that the preamble be construed as limiting" only relied on the alleged fact that "[n]either Plaintiff nor Defendant included the preamble of claim 8 as a disputed claim term." *Id.* By doing so Dr. Clark assumes that the preamble of claim 8 is by default not limiting. As fully explained in Section IX.B.1.a.(1), Dr. Clark's assumption is completely groundless and erroneous, and the preamble of claim 8 is limiting, because: (i) the preamble limitation "wireless communication client or extension unit" provides an antecedent basis for the body of claims 8, 12, and 14; (ii) the preamble recites necessary structural limitations of the purported invention of claim 8; and (iii) the patentee's clear reliance on the preamble limitation "wireless communication client or extension unit" during prosecution to distinguish the purported invention claim 8 from the prior art transforms the preamble into a claim limitation.

456.   Accordingly, the Plaintiff (through Dr. Clark) bears the burden (which Dr. Clark failed) to prove that the S1 device meet each and every limitation of the preamble in order to prove infringement of claim 8.

> (2)   **Dr. Clark Misinterpreted that the "Plurality of" Component List Limitation Can Be Met by a Subset of Components Listed in the Claim 8 Preamble**

457.   Dr. Clark erroneously interpreted that "the 'plurality of' language of claim 8's preamble only requires two or more of these components." Ex. 03 (Clark Report) at ¶ 521. Dr. Clark failed to cite any authority or evidence to support his interpretation that the "**a plurality of** memory, processors, programs, communication circuitry, authentication data . . . **[,] and** non-local calls database" limitation of claim 8 only requires a subset of these components listed in the claim preamble.

458.   In my opinion, Dr. Clark's interpretation runs counter to common English grammar and results in strained, and awkward interpretation. According to the classic English grammar, "[a]n article of a preposition applying to all the members of the series must either be used only before the first term or else be repeated before each term." *See* Strunk & White's *The Elements of Style* (4th ed. 2000). Therefore, a preposition (e.g., "a plurality of") used before the first term of the series should be applied to each term listed thereafter. Accordingly, the preposition "a plurality of" in the claim language "**a plurality of** memory, processors, programs, communication circuitry, authentication data . . . **[,] and** non-local calls database" (Ex. 01 ('689 patent) at 25:5-8) (emphases added) should be applied to each component listed thereafter. That is, the above claim language should be interpreted as: (1) a plurality of memory; (2) a plurality of processors; (3) a plurality of programs; (4) a plurality of communication circuitry; (5) a plurality of authentication data; and (6) a plurality of non-local calls database.

459.   Based on legal advice from Morgan Lewis attorneys on case law, I believe my

of . . . *authentication data stored on* a subscribed identify module (SIM) card and/or in memory and *non-local calls database*." Ex. 03 (Clark Report) at ¶ 520 (emphases added). Firstly, Dr. Clark's reading of the claim 8 preamble is nonsensical and he provided nothing in support of his allegation that uCloudlink provides a "non-local calls database" required by claim 8 on the S1 device.

463.   Secondly, Dr. Clark misread the preamble limitation "non-local calls database" of claim 8 as "authentication data stored on . . . non-local calls database." *See id*. This is incorrect and is inconsistent with the '689 patent specification. Nowhere does the '689 patent specification describes storing authentication data on non-local calls database. *See* Ex. 01 ('689 patent) at 14:21-24 ("The wireless communication client 106 (or wireless extension unit 108) *stores at least a portion of authentication data 530 either on a SIM card and/or in memory 512* as authentication information 532.").

464.   In my opinion, from the linguistic and technical perspective, the preamble of claim 8 shall read as "**[a] wireless communication client or extension unit comprising a plurality of** memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory**[,] and non-local calls database** . . ." whereas the "non-local calls database" is one of the recited structural components of the wireless communication client or extension unit, rather than a place to store the recited "authentication data." My reading of the preamble is consistent with the '689 patent specification disclosing the non-local calls database storing "various locations, corresponding area codes, and corresponding local dial-in telephone numbers," and nowhere does the specification disclose storing authentication data in the non-local calls database. Dr. Clark's reading of the claim 8 preamble is not technically sound. Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls

database 525 lists various locations, corresponding area codes, and corresponding local dial-in telephone numbers for use when the subscriber wants to make a non-local call when present at a particular location.").

465.   Dr. Clark failed to provide evidence that the S1 device contains the "non-local calls database" as required by claim 8. Since the S1 device does not provide cellular voice services using the Cloud SIM and therefore do not need the "non-local calls database" as required by claim 8. As evidenced on the websites (e.g., https://www.glocalme.com/data_package?lang=en-US&giso=IN; https://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Daps&field-keywords=GlocalMe) selling S1 devices, the S1 devices provide *only* data services using Cloud SIM and has *no* other communication services like SMS and cellular voice services. ▮▮▮▮

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466.   In my opinion, there is ample evidence that the S1 device does not include a non-local calls database, as described in Figure 5B (reproduced below) and the specification of the '689 patent. See Ex. 01 ('689 patent) at 15:57-61 ("The non-local calls database 525 lists various locations, corresponding area codes, and *corresponding local dial-in telephone numbers for use when the subscriber wants to *make a non-local call* when present at a particular location.") (emphases added).

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██ Ex. 36 (UCLOUDLINK0384590).

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2.   G2 Work Flow/Operation Model for Regular Users

62.   The GlocalMe devices (including the G2, G3, and U2 devices) ████████████

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3.   G2 Work Flow/Operation Model for Rental and Contract Users

68.   The GlocalMe devices for rental is branded as "ROAMING MAN." Also, there

are GlocalMe devices for contract users. The rental and contract GlocalMe devices work in a

way different from the devices for regular users. For example, one of the features distinguishing

the rental and contract GlocalMe devices from the regular GlocalMe devices is that no

registration nor login steps are necessary at any stage of using the rental or contract GlocalMe

devices. Instead, a user simply turns on a rental or contract GlocalMe device to provide a Wi-Fi

hotspot service without further configuration on the GlocalMe device. And then *other* client

device(s) (such as laptops, tablets or smartphones) can use the Wi-Fi hotspot service.

Specifically, *on other client device(s)*, the user can select the name of the Wi-Fi hotspot and

enters a *Wi-Fi* password to connect to the rental or contract GlocalMe device. Ex. 41

(ROAMING MAN Website - homepage) available at https://www.ROAMING MAN.com/#

(reproduced below); *also see* Ex. 42 (ROAMING MAN Website - Support) available at

https://www.ROAMING MAN.com/support ("Do I have to configure anything before

connecting my device to ROAMING MAN? No configuration is necessary.").
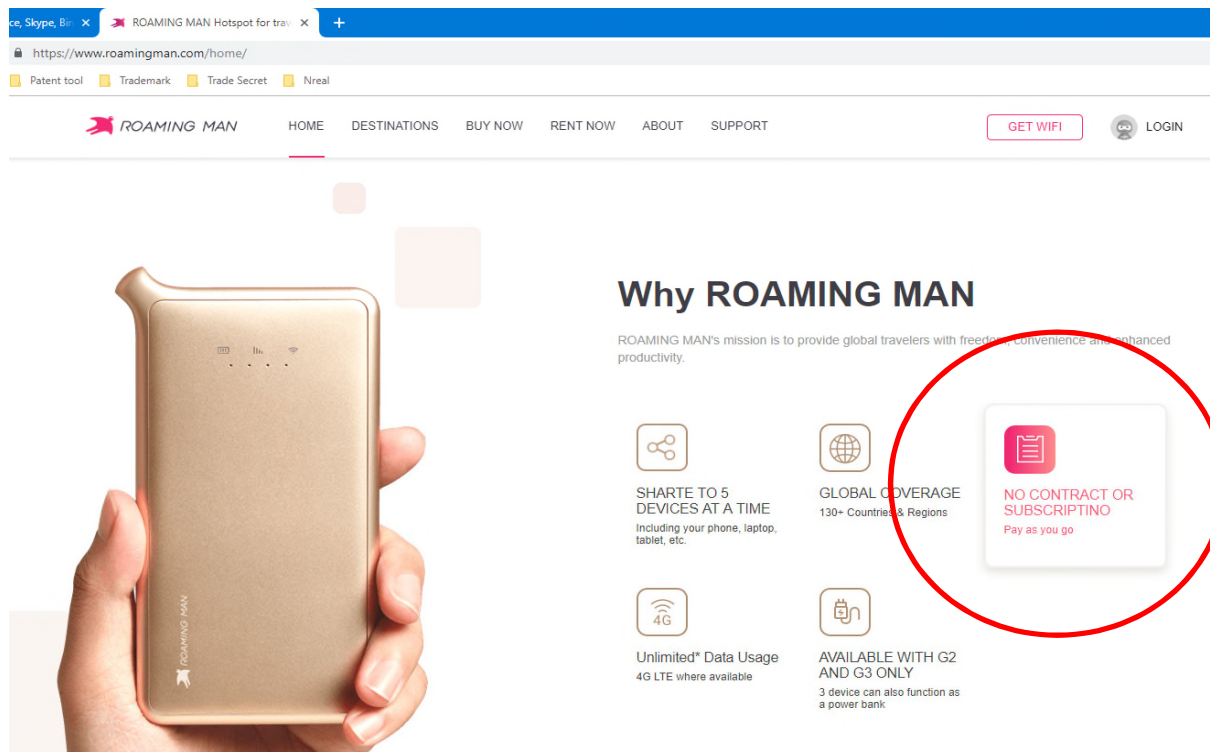
Ex. 41 (Starting Bates No. UCLOUDLINK0385482 - ROAMING MAN Website - homepage) available at https://www.ROAMING MAN.com/#.

B.   The G3 Device

1.   G3 Components

69.   The G3 device is also a mobile Wi-Fi Hotspot developed by uCloudlink. It is a light-weight hotspot device that can connect to 4G LTE high speed network.

2.   G3 Work Flow/Operation Model

71.   The G3 devices for regular users, rental users, and contract users work in the same way as the GlocalMe G2 devices for regular users, rental users, and contract users, respectively. Please refer to Section VII.A.2 and 3.

C.   The U2 Device

72.   The U2 device is a mobile Wi-Fi Hotspot developed by uCloudlink. It is a light weight hotspot device that can connect to 4G LTE high speed network.

1.   Components

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2. U2 Work Flow/Operation Model

74. The U2 devices for regular users, rental users, and contract users work in the same way as the G2 devices except that the U2 device does not have any input interface such as graphical user interface such as a touch screen to enter any information such as a user account ID or password. Ex. 46 (SIMO_0172755-U2 amazon). Please refer to Section VII.A.2 and 3.

D. The S1 Device

75. GlocalMe S1 is a smartphone that is also sometimes referred to as a "world phone." It offers international data roaming service in a similar way as the GlocalMe devices explained above.

1. S1 Components

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2.   S1 Work Flow/Operation Model

78.   Below I will walk through how international data roaming function of the S1 device works step by step.

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VIII.   REBUTTAL TO WELCH REPORT REGARDING SOURCE CODE

84.   I have reviewed Welch Report regarding Mr. Welch's interpretation of

uCloudlink source code related to the Accused Products. I provide my rebuttal some of his

interpretations, as set forth below.

A.   G3 Source Code Walkthrough

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252.   Second, neither Dr. Clark nor Mr. Welch ████████████████████████

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                                        ” *See* Ex. 03 (Clark Report) at ¶ 239 ██████████████

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██. But Mr. Welch failed to provide

such support.

253.   Truly, upon reviewing the cited sections of Welch Expert Report, I could not find

Mr. Welch provided any substantial information. Mr. Welch failed ████████████████████

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Ex. 27 (UCL-SC0006030-6241,   ) at lines 8427-8524.

254.   Therefore, Dr. Clark and Mr. Welch failed to prove that the G2 device meets the

Element 14[a] limitation of claim 14. More importantly, as shown in the relevant source code I

discussed above, the G2 device

C.   **Dr. Clark Failed to Prove Infringement by G3**

1.   **Dr. Clark Failed to Prove Infringement of Claim 8 by G3**

a.   **Element 8[Pre]**

"*A wireless communication client or extension unit comprising a plurality of memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory and non-local calls database, at least one of the plurality of programs stored in the memory comprises instructions executable by at least one of the plurality of processors for*"

255.   Dr. Clark failed to prove that the G3 device meets all limitations of the preamble of claim 8.

(1)   **The Preamble of Claim 8 Is Limiting**

256.   Dr. Clark erroneously argued that "the preamble of claim 8 is not a limitation." Ex. 03 (Clark Report) at ¶ 264. Dr. Clark failed to provide any evidence or solid reasoning that the preamble of claim 8 is not limiting. His cursory conclusion "neither party requested that the preamble be construed as limiting" only relied on the alleged fact that "[n]either Plaintiff nor Defendant included the preamble of claim 8 as a disputed claim term." *Id. at ¶ 242.* By doing so Dr. Clark assumes that the preamble of claim 8 is by default not limiting. As fully explained in Section IX.B.1.a.(1), Dr. Clark's assumption is completely groundless and erroneous, and the preamble of claim 8 is limiting, because: (i) the preamble limitation "wireless communication client or extension unit" provides an antecedent basis for the body of claims 8, 12, and 14; (ii) the preamble recites necessary structural limitations of the purported invention of claim 8; and (iii) the patentee's clear reliance on the preamble limitation "wireless communication client or extension unit" during prosecution to distinguish the purported invention claim 8 from the prior art transforms the preamble into a claim limitation.

257.   Accordingly, Plaintiff (through Dr. Clark) bears the burden (which Dr. Clark

failed) to prove that the G3 device meet each and every limitation of the preamble in order to prove infringement of claim 8.

<div style="text-align:center">

(2)   **Dr. Clark Misinterpreted that the "Plurality of" Component List Limitation Can Be Met by a Subset of Components Listed in the Claim 8 Preamble.**

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258.   Dr. Clark erroneously interpreted that "the 'plurality of' language of claim 8's preamble only requires two or more of these components." Ex. 03 (Clark Report) at ¶ 248. Dr. Clark failed to cite any authority or evidence to support his interpretation that the "**a plurality of** memory, processors, programs, communication circuitry, authentication data . . . **[,] and** non-local calls database" limitation of claim 8 only requires a subset of these components listed in the claim preamble.

259.   In my opinion, Dr. Clark's interpretation runs counter to common English grammar and results in strained, and awkward interpretation. According to the classic English grammar, "[a]n article of a preposition applying to all the members of the series must either be used only before the first term or else be repeated before each term." *See* Strunk & White's *The Elements of Style* (4th ed. 2000). Therefore, a preposition (e.g., "a plurality of") used before the first term of the series should be applied to each term listed thereafter. Accordingly, the preposition "a plurality of" in the claim language "**a plurality of** memory, processors, programs, communication circuitry, authentication data . . . **[,] and** non-local calls database" (Ex. 01 ('689 patent) at 25:5-8) (emphases added) should be applied to each component listed thereafter. That is, in my opinion, the above claim language should be interpreted as: (1) a plurality of memory; (2) a plurality of processors; (3) a plurality of programs; (4) a plurality of communication circuitry; (5) a plurality of authentication data; and (6) a plurality of non-local calls database.

260.   Based on legal advice from Morgan Lewis attorneys on case law, I believe my opinion is consistent with laws. The above grammatical principle was cited by the United States

includes "a unique subscriber identifier" as required by claim 14.

350.   Second, neither Dr. Clark nor Mr. Welch ████████████████████████

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351.   Truly, upon reviewing the cited sections of Welch Expert Report, I could not find

Mr. Welch provided any substantial information. Mr. Welch simply ████████████████

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Ex. 28 (UCL-SC0000947-1153, ███████████████████) at lines 8474-8571.

352.   Therefore, Dr. Clark and Mr. Welch failed to prove that the G3 device meets the

Element 14[a] limitation of claim 14. More importantly, as shown in the relevant source code I

discussed above, the G3 device ac██

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D.   Dr. Clark Failed to Prove Infringement by U2

1.   Dr. Clark Failed to Prove Infringement of Claim 8 by U2

a.   Element 8[Pre]

"*A wireless communication client or extension unit comprising a plurality of memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory and non-local calls database, at least one of the plurality of programs stored in the memory comprises instructions executable by at least one of the plurality of processors for*"

353.   Dr. Clark failed to prove that the U2 device meets all limitations of the preamble of claim 8.

(1)   The Preamble of Claim 8 Is Limiting

354.   Dr. Clark erroneously argued that "[t]he preamble of claim 8 is not a limitation." Ex. 03 (Clark Report) at ¶ 382. Dr. Clark failed to provide any evidence or solid reasoning that the preamble of claim 8 is not limiting. His cursory conclusion "neither party requested that the preamble be construed as limiting" only relied on the alleged fact that "[n]either Plaintiff nor Defendant included the preamble of claim 8 as a disputed claim term." *Id.* By doing so Dr. Clark assumes that the preamble of claim 8 is by default not limiting. As fully explained in Section IX.B.1.a.(1), Dr. Clark's assumption is completely groundless and erroneous, and the preamble of claim 8 is limiting, because: (i) the preamble limitation "wireless communication client or extension unit" provides an antecedent basis for the body of claims 8, 12, and 14; (ii) the preamble recites necessary structural limitations of the purported invention of claim 8; and (iii) the patentee's clear reliance on the preamble limitation "wireless communication client or extension unit" during prosecution to distinguish the purported invention claim 8 from the prior art transforms the preamble into a claim limitation.

355.   Accordingly, Plaintiff (through Dr. Clark) bears the burden (which Dr. Clark failed) to prove that the U2 device meet each and every limitation of the preamble in order to

prove infringement of claim 8.

> (2)   **Dr. Clark Misinterpreted that the "Plurality of" Component List Limitation Can Be Met by a Subset of Components Listed in the Claim 8 Preamble**

356.   Dr. Clark erroneously interpreted that "the 'plurality of' language of claim 8's preamble only requires two or more of these components." Ex. 03 (Clark Report) at ¶ 388. Dr. Clark failed to cite any authority or evidence to support his interpretation that the "**a plurality of** memory, processors, programs, communication circuitry, authentication data . . . **[,] and** non-local calls database" limitation of claim 8 only requires a subset of these components listed in the claim preamble.

357.   In my opinion, Dr. Clark's interpretation runs counter to common English grammar and results in strained, and awkward interpretation. According to the classic English grammar, "[a]n article of a preposition applying to all the members of the series must either be used only before the first term or else be repeated before each term." *See* Strunk & White's *The Elements of Style* (4th ed. 2000). Therefore, a preposition (e.g., "a plurality of") used before the first term of the series should be applied to each term listed thereafter. Accordingly, the preposition "a plurality of" in the claim language "**a plurality of** memory, processors, programs, communication circuitry, authentication data . . . **[,] and** non-local calls database" (Ex. 01 ('689 patent) at 25:5-8) (emphases added) should be applied to each component listed thereafter. That is, in my opinion, the above claim language should be interpreted as: (1) a plurality of memory; (2) a plurality of processors; (3) a plurality of programs; (4) a plurality of communication circuitry; (5) a plurality of authentication data; and (6) a plurality of non-local calls database.

358.   Based on legal advice from Morgan Lewis attorneys on case law, I believe my opinion is consistent with laws. The above grammatical principle was cited by the United States Court of Appeals for the Federal Circuit in *Superguide Corp. v. DirecTV Enterprises, Inc. See*
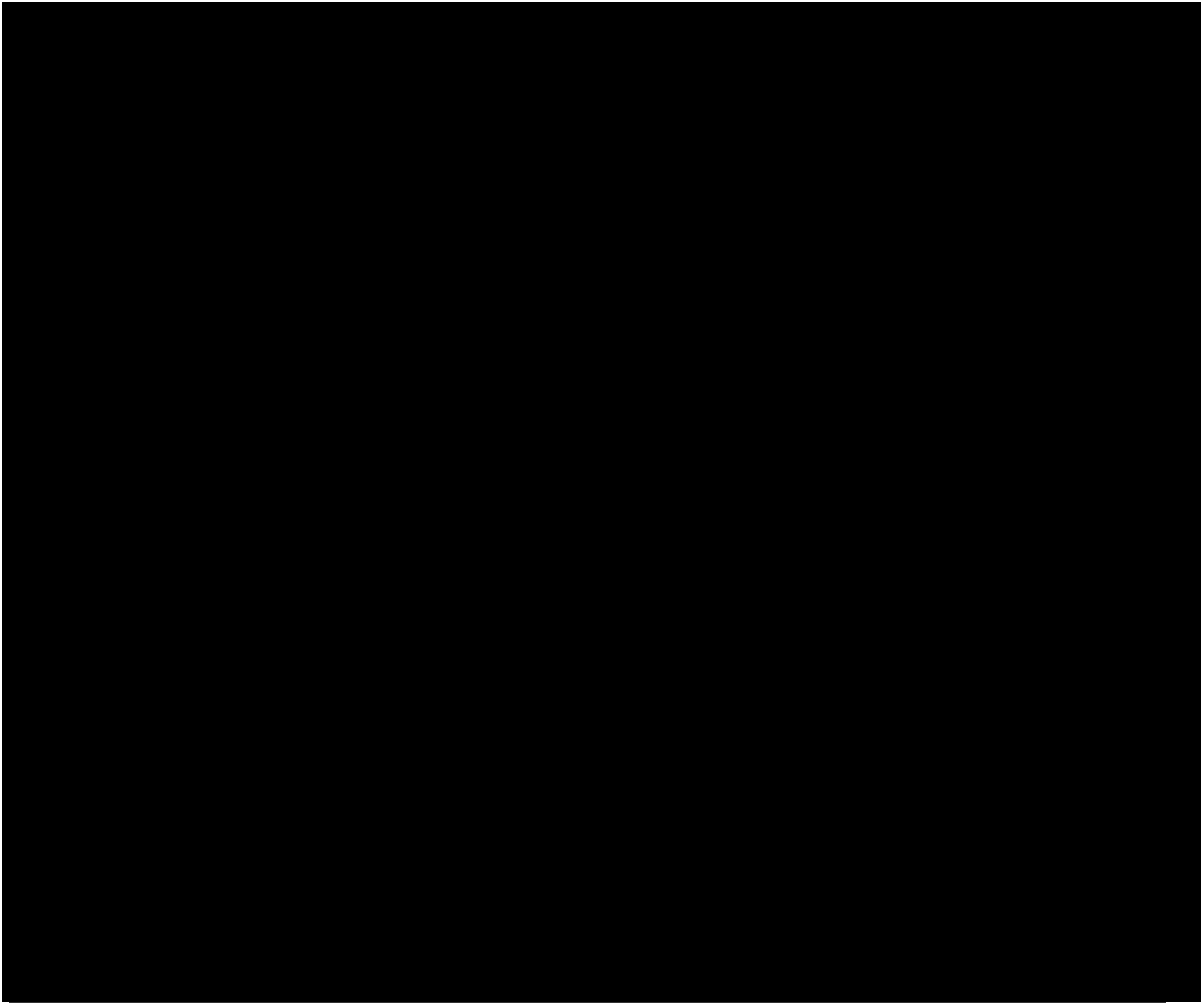
Ex. 29 (UCL-SC0008800-9025, ██████████████████) at 8924, lines 8483-8580.

403.   Dr. Clark relied on Welch Report ████████████████████████████

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404.   In addition, Dr. Clark asserted that "Defendants' witness ███████████

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405.   Therefore, Dr. Clark and Mr. Welch failed to prove that the U2 device "relay[s]"

the local authentication information request to the remote administration system via the data

communication link" of claim 10, because ████████████████████████████████

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| | (2) | **Dr. Clark Failed to Prove the U2 Device Meets the "obtaining suitable local authentication information" Limitation of Claim 8** |

406.   Dr. Clark asserted that ███████████████████████████

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Ex. 30 (Bates No. UCL-SC0008451-505) at lines 3042-3091 (emphases added).

450.   Therefore, Mr. Welch did not support, in fact negated, Dr. Clark's allegation that the local authentication information request for authentication information of the U2 device includes "a unique subscriber identifier" as required by claim 14

451.   Second, neither Dr. Clark nor Mr. Welch cited any source code ███████████

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452.   Truly, upon reviewing the cited sections of Welch Expert Report, I could not find Mr. Welch provided any substantial information. Mr. Welch ██████████████

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Ex. 29 (UCL-SC0008800-9025, ███████████████ at lines 8483-8580.

453.   Therefore, Dr. Clark and Mr. Welch failed to prove that the U2 device meets the

Element 14[a] limitation of claim 14. More importantly, as shown in the relevant source code I

discussed above, the U2 device ███

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E.   Dr. Clark Failed to Prove Infringement by S1

1.   Dr. Clark Failed to Prove Infringement of Claim 8 by S1

a.   Element 8[Pre]

"A wireless communication client or extension unit comprising a plurality of memory, processors, programs, communication circuitry, authentication data stored on a subscribed identify module (SIM) card and/or in memory and non-local calls database, at least one of the plurality of programs stored in the memory comprises instructions executable by at least one of the plurality of processors for"

454.   Dr. Clark failed to provide S1 meets all limitations of the preamble of claim 8.

(1)   The Preamble of Claim 8 Is Limiting

455.   Dr. Clark erroneously argued that "[t]he preamble of claim 8 is not a limitation."

Ex. 03 (Clark Report) at ¶ 519. Dr. Clark failed to provide any evidence or solid reasoning that

the preamble of claim 8 is not limiting. His cursory conclusion "neither party requested that the

preamble be construed as limiting" only relied on the alleged fact that "[n]either Plaintiff nor

Defendant included the preamble of claim 8 as a disputed claim term." *Id.* By doing so Dr. Clark

assumes that the preamble of claim 8 is by default not limiting. As fully explained in Section

IX.B.1.a.(1), Dr. Clark's assumption is completely groundless and erroneous, and the preamble

of claim 8 is limiting, because: (i) the preamble limitation "wireless communication client or

extension unit" provides an antecedent basis for the body of claims 8, 12, and 14; (ii) the

preamble recites necessary structural limitations of the purported invention of claim 8; and (iii)

the patentee's clear reliance on the preamble limitation "wireless communication client or

extension unit" during prosecution to distinguish the purported invention claim 8 from the prior

art transforms the preamble into a claim limitation.

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549.   Dr. Clark solely relied on certain sections of Welch's Expert Report interpreting source code of the G3 device to support his allegation. *See* Ex. 03 (Clark Report) at ¶ 634 ████

████████████████████████████████. However, Welch's Expert Report did not support, and even negated, Dr. Clark's allegation.

550.   Neither Dr. Clark nor Mr. Welch cited to any source code ████████████████

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551.   Truly, upon reviewing the cited sections of Welch Expert Report, I could not find Mr. Welch provided any substantial information. Mr. Welch ████████████████████

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552.   At this point, Mr. Welch is completely wrong. Based on my discussions with

uCloudlink witnesses Shu He and Rongrong Zeng, I have confirmed that the S1 device

Ex. 50 (UCL-SC00009881, ███████████████) at lines 192-197

553.   Therefore, Dr. Clark and Mr. Welch failed to prove that the S1 device meets the

Element 14[a] limitation of claim 14. More importantly, as shown in the relevant source code I

discussed above, the S1 device ██

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X.   ████████████████████████████████████

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